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## Varicose veins and spider veins

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### Summary

- Varicose veins are knobbly, twisted and darkish-blue in appearance, and are most commonly found on people's legs.
  - Varicose veins are caused by faulty valves within veins, that allow blood to pool.
  - Treatment options for varicose and spider veins include sclerotherapy and surgery.
  - Sclerotherapy is the injection of a solution into the vein.
  - Most people can expect an improvement in the appearance of treated veins.
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Veins carry deoxygenated blood back to our heart. In our legs, blood is collected in the superficial veins, just below the skin surface, and delivered to deeper veins that run within our calf muscles. The muscular action of our calves helps to pump the blood against the force of gravity towards the heart. One-way valves inside the veins prevent the blood from travelling backwards.

If these valves fail to close properly, blood pools in the superficial veins. Over time, the affected veins distend with blood (become 'varicose'). Varicose veins are knobbly, twisted and darkish-blue in appearance.

Spider veins are like varicose veins, but smaller and closer to the surface of the skin. They are often red or blue, and can look like tree branches or spider webs. They are mostly found on a person's legs or face. They may cover a small or large area.

These problem veins can be treated in two main ways. Surgery is usually used on only the larger varicose veins, while sclerotherapy can help with smaller veins.

Treatment of varicose veins and spider veins is not just for cosmetic reasons. Varicose vein disease can cause many health problems, such as blood clots, venous eczema, skin breakdown and ulceration, and, rarely, skin cancers.

### Causes of varicose veins and spider veins

We do not know the causes of varicose veins and spider veins. However, in many cases, they run in families. Women seem to get the problem more often than men. Changes in oestrogen levels in a woman's blood may have a role in the development of varicose veins. Such hormonal changes occur during puberty, pregnancy, breastfeeding and menopause.

Factors that may increase your risk of developing varicose veins include:

- standing or sitting for long periods
- being immobile for long periods – for example, being confined to bed
- lack of exercise
- obesity.

### Symptoms of varicose veins

Problems can occur if the faulty valves are located within the veins that go through the calf muscles (deep veins). Associated problems may include:

- aching in the legs
  - skin rashes such as eczema
  - brownish 'stains' on the skin surface, caused by the eruption of capillaries
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- skin ulcers
- blood clots forming within veins (thrombophlebitis).

### **Prevention of varicose veins and spider veins**

Some suggestions that may help to prevent varicose and spider veins include:

- Wear support stockings.
- Maintain good weight control.
- Get regular exercise.
- Avoid wearing high heels, as they affect the proper functioning of the larger veins.

### **Treatment of varicose veins and spider veins**

Some varicose veins and spider veins can be treated by sclerotherapy, which is the injection of irritant chemicals (sclerosants) into the affected vein. The irritant prompts the vein to spasm and collapse in on itself. In time, the walls of the collapsed vein heal together, and the sealed vein can no longer carry blood.

Leg veins clear up slowly after sclerotherapy and may take up to two to six months to resolve, depending on their size. A compression stocking worn on the leg helps to speed this process. Small veins need compression for around three to six days, while bigger veins need about six weeks.

### **Sclerotherapy procedure**

The actual sclerotherapy procedure takes at least one-and-a-half hours. Afterwards, you need to allow extra time for walking around. The process includes:

- The surgeon marks the site of injection on your legs while you stand.
- The surgeon gives you the injections while you are lying down.
- You put on compression bandages and stockings immediately after the injections. The bandages are meant to be tight.
- You should then walk for about half an hour.

The fine needle used for injecting does not cause much pain, only a mild pinprick sensation. Some people may experience a burning sensation after the injection. This disappears after a few seconds.

Each vein may need several injections, given some weeks apart. Many different veins can be injected in one treatment session. Allergic reactions to the sclerosants are very rare.

If the problem vein isn't visible to the eye, the surgeon will use an ultrasound machine to help guide the needle (echosclerotherapy). This enables the surgeon to clearly see both normal and abnormal veins underneath the skin. Ultrasound-guided sclerotherapy is best for people with:

- varicose veins
- spider veins that haven't responded to standard injections
- leg ulcers
- other complications of varicose veins, such as pigmentation and eczema.

### **After sclerotherapy for varicose or spider veins**

To improve blood circulation in the deep veins, it is essential to walk after the treatment. You should wear a compression stocking to reduce the risk of bruising and swelling, and other complications such as inflammation and clots. Regular exercise, weight control and the use of support stockings (if practical) are recommended between treatments and after treatment.

### **Side effects of sclerotherapy for varicose or spider veins**

Some of the possible side effects and complications of sclerotherapy include:

- bruising – usually at the site of the injection. This will disappear in a few weeks
- Brown lines or spots – these may appear on the skin at the site of the injected blood vessels. This can occur when blood escapes from the treated vein into the skin. In most cases, this discoloration will disappear in

time. In a small number of people (fewer than five per cent), the brown lines may last up to a year or longer. It is best not to take iron supplements while receiving sclerotherapy, as brown lines are caused by the iron content of the red blood cells. Laser therapy can treat stubborn lines or spots, although this treatment cannot be guaranteed to work

- lumps – may occur in larger injected veins. These are called ‘trapped blood’ and are not dangerous. They will either be removed a few weeks after the injection or will clear by themselves
- swelling – may occur in people who have had large veins treated. To prevent swelling, it is best to wear compression stockings after the treatment
- matting – a network of fine blood vessels can develop after sclerotherapy. This can be due to a number of reasons including lack of compression, inadequate compression, hormonal supplements, vitamin E supplements, use of anti-bruising creams or creams containing vitamin E, and inadequate treatment of underlying veins. Matting may resolve spontaneously but this may take a year or longer. It can also be treated using special injection techniques
- ulcers (large sores) – these may form at the site of the injection. They can occur immediately after injection or a few days later. They are rare, but can be painful and usually leave scars after they heal
- inflammation (phlebitis) and blood clots – can affect the treated large veins
- allergy to the irritant solution
- irritation to veins other than the intended varicose vein
- accidental injection of irritant solution into an artery, causing tissue damage.

Inflammation (phlebitis) and blood clots can occur after sclerotherapy if:

- no compression has been applied
- the applied compression has not been enough
- you are on the contraceptive pill or hormone replacement therapy
- you have an underlying tendency to clotting
- the treatment has been performed just after long-distance travel or a major operation
- the underlying source of leakage in the vein has not been treated adequately
- the inflammation extends to the deep veins, causing deep vein thrombosis (DVT). DVT is a rare but serious complication of sclerotherapy. It can extend to the lungs, causing pulmonary embolism (clots in the lungs) and even death
- it is recommended that women stop all hormonal supplements before sclerotherapy (check with your doctor).

### **Surgery for varicose veins**

Major surface veins (long or short saphenous veins) that are varicose are usually treated surgically. Generally, a surgeon makes numerous small incisions (cuts) to reach the vein, rather than one large cut. Depending on the location of the varicose vein, these incisions may, for example, be in the groin or behind the knee.

Surgical techniques include:

- ligation and stripping – the surgeon cuts and ties off the vein (this is called ligation). Stripping the vein involves inserting a slender instrument into the vein through a small incision. The vein is then pulled out through a second incision
- phlebectomy – the surgeon makes small incisions, then removes the veins with a special hook.

### **Medical issues before varicose vein surgery**

Doctors use a number of tests to decide which type of surgery is best for you. These tests include a physical examination and an ultrasound scan. You need to discuss a range of issues with your doctor or surgeon including:

- your medical history, since some pre-existing conditions may influence decisions about surgery and anaesthetic
- any medications you take on a regular basis, including over-the-counter preparations
- any bad reactions or side effects you have experienced from any medications
- whether or not you are pregnant. Varicose vein surgery is generally not advised for women during pregnancy.

### **Immediately after varicose vein surgery**

After a varicose vein operation, you can expect:

- firm bandaging on your legs, to reduce bruising
- pain-relieving medication
- being encouraged to walk around
- a hospital stay of one or two days.

### **Side effects of varicose vein surgery**

Some of the common side effects of varicose vein surgery include:

- swelling, which may take a few weeks to disappear. This is most likely on the feet and ankles
- scarring, although scars tend to be less noticeable than the varicose veins were. The scars fade with time
- brown staining of the skin, although this tends to fade with time
- pain, swelling and bruising in the skin and the calf muscle
- injuries to nerves, causing patches of numbness or 'pins and needles'. These patches may recover in time (up to two years in some cases) or they may be permanent.

### **Complications of varicose vein surgery**

Varicose vein surgery is considered to be safe, but all surgery has some degree of risk. Possible complications may include:

- infection, particularly if you had skin ulcers
- blood clots forming within deep veins
- bleeding or bruising.

### **Self-care at home after varicose vein surgery**

Be guided by your doctor, but general self-care suggestions include:

- Allow for one (or perhaps two) weeks off work following surgery. You will need to avoid any hard physical exertions during this time.
- Don't remove your bandages yourself. Leave bandages for your doctor to remove.
- To keep your bandages dry while showering, wrap your bandaged leg in plastic.
- Take at least a half-hour walk every day.
- Sunburn can make scars look worse. Avoid sun exposure if possible for six months.
- Wear a compression stocking for as long as your doctor advises.
- Avoid long periods of standing, or sitting with your legs crossed.
- You may need support stockings if your legs continue to ache.

### **Long-term outlook after varicose vein surgery**

You will need to have a check-up a few weeks after surgery and, again, several months later. About 20 per cent of people who have varicose vein surgery will develop new crops of varicose veins over time.

### **Other forms of treatment for varicose veins**

Some other forms of treatment for varicose veins include:

- The veins are sealed by electrical current (electrodessication).
- The veins are destroyed by laser or high-intensity light.

### **Where to get help**

- Your doctor
- Your surgeon
- Dermatologist
- **Australasian College of Dermatologists** Tel. 1300 361 821 or (02) 8765 0242

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